

ABSTRACT OF THE DISCLOSURE:

A method for allowing a partial instruction to be executed in a fixed point unit pipeline during the instruction dispatch cycle creates a mask used to select which bits of the operands

5 participate in a future logical operation of the fixed point unit back a cycle to the instruction dispatch stage of the fixed point unit. As an S/390 System improvement applicable to other computers, the mask is determined and created two cycles ahead of execution, or two cycles before the mask is actually used. Also,
10 in the method used for moving the mask generation back by one cycle, mask generation overlaps the dispatch stage in the I-unit, and this provides a handshake between the I-unit and E-unit of the fixed point unit of the central processor unit of the computer system. The control setting selection process occurs in
15 a predetermination cycle stage or e-1 (em1) stage for the mask generation and the register file read address. Speculative handshaking allows the E-1 stage to be created with no impact to the last stage of the I-Unit, such that no additional logic is needed and cycle time is not jeopardized. Also, the E-1 stage of
20 an instruction overlaps with the execution stages of previous instructions.